

REMARKS/ARGUMENT

The Examiner has rejected claims 1-3, 5, 8, 9, 11, 15, and 16 under 35 U.S.C. Section 102(b) as being anticipated by Oliensis, "Multiframe Structure from Motion in Perspective," IEEE 1996 (the "Oliensis 1996 paper") and claim 14 under 35 U.S.C. Section 103(a) as being unpatentable over the Oliensis 1996 paper in view of U.S. Patent No. 6,614,429. The Examiner has also objected to claims 1-13, 15 and 16 on various grounds and provisionally rejected claim 1 based on double patenting.

Applicants herein cancel claims 1-16 and submit new claims 17-32. Applicants respectfully submit that the new claims represent patentable subject matter and render the Examiner's rejections and objections moot. No new matter has been added.

The new independent claims are claim 17, 24, and 27.

Claim 17 and its dependent claims now recite limitations including, inter alia, "computing rotational motion ... using a combination of first rotational flow vectors ... and second rotational flow vectors" where the "second rotational flow vectors" are "derived from a set of tracked lines collected from the successive image data." Support for these limitations is found, for example, at pages 11-14 and page 15 of the specification. The prior art, including the Oliensis 1996 paper, does not disclose constructing rotational flow vectors from tracked lines collected from successive image data. The Oliensis 1996 paper, written by the same inventor herein, is directed to the inventor's prior method which treated only point rotations.

Claims 18 and 19 further limit the independent claim by reciting that the second rotational flow vectors are "represented by projections in two directions that take into account differences in noise of a measured line in different directions." As discussed in the specification, for example, at pages 11-14, the line measurement model in accordance with an embodiment of the invention advantageously takes into account the effects of noise on projections in what are referred to as an "upper" and "lower" direction. The formal representations of the rotational flow vectors are shown in dependent claim 19.

Claim 24 and its dependent claims recite limitations including "computing planar homographies between the successive image data using tracked points and tracked lines collected from the successive image data where sequences in the successive image data are


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uncalibrated” and “constructing a shift data matrix for the tracked points and tracked lines that compensates for planar homographies”. Support for these limitations can be found, for example, at pages 25-27 of the specification. These limitations are nowhere found or suggested by the Oliensis 1996 paper.

Claim 27 and its dependent claims similar to the above recites limitations including “parameterizing a set of tracked lines collected from successive image data” and “computing rotational motion in the successive image data using rotational flow vectors derived from the tracked lines where the rotational flow vectors are represented by projections in two directions that take into account difference in noise of a measured line in different directions”. The Oliensis 1996 paper treats only point rotations and does not disclose or suggest any of the above-recited limitations.

Applicants respectfully submit that the application is now in condition for allowance. If the Examiner has any questions, please contact the undersigned at 609 951-2522. Authorization is hereby given to charge any fees which may be required, except the issue fee, to Deposit Account 14-0627.

Respectfully submitted,


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